WE CLAIM:

1. Microparticles comprising a pharmaceutically active carbamate and a biodegradable polymer.

2. The microparticles of claim 1 wherein the biodegradable polymer is polyester, poly(phosphate), poly (anhydride), poly(ortho ester) or a mixture thereof.

3. The microparticles of claim 2 wherein the polyester is poly(d,l-lactide-co-glycolide), poly(caprolactone), polycarbonate or a mixture thereof.

4. The microparticles of claim 3 comprising a mixture of a first and a second polymer wherein the second polymer is more hydrophobic than the first polymer.

5. The microparticles of claim 4 wherein the first polymer is poly(d,l-lactide-co-glycolide) and the second polymer is a polyester, poly(anhydride) or poly(ortho ester).

6. The microparticles of claim 3, wherein the carbamate is physostigmine, heptylphysostigmine, neostigmine, pyridostigmine, galanthamine, tetrahydroacridine, velnacrine, or a mixture thereof.

7. The microparticles of claim 6 wherein the biodegradable polymer is poly(d,l-lactide-co-glycolide).

8. The microparticles of claim 7, wherein the carbamate is physostigmine.

9. The microparticles of claim 7, wherein the carbamate is pyridostigmine.

10. The microparticles of claim 8, wherein the poly(d,l-lactide-co-glycolide) has an average molecular weight range of about 4,000 to about 100,000.

11. The microparticles of claim 10, wherein the poly(d,l-lactide-co-glycolide) contains lactide and glycolide in a ratio of lactide:glycolide of 85:15, 75:25, 65:35 or 50:50.

12. The microparticles of claim 10, wherein the poly(d,l-lactide-co-glycolide) has an average molecular weight range of about 14 000 to 42 000.

13. The microparticles of claim 11, wherein the concentration of the polymer is about 2% to 6% w/v.

14. The microparticles of claim 13, wherein the concentration of the carbamate is about 10% w/w.

15. A sustained release formulation comprising microparticles wherein the microparticles comprise a pharmaceutically active carbamate and a biodegradable polymer.

16. The formulation of claim 15 which is an oral or parenteral preparation.

17. The formulation of claim 15 that provides sustained release of the carbamate for up to about 48 hours, wherein the carbamate is physostigmine and the polymer is poly(d,l-lactide-co-glycolide) containing lactide and glycolide in a ratio of 50:50 and the concentration of the carbamate is 10% w/w of the microparticles.

18. The microparticles of claim 8 that provide sustained release of the carbamate for at least one week, wherein the concentration of the carbamate is 10% w/w.

19. The formulation of claim 15 further comprising an anti-cholinergic agent.

20. A method of preparing a sustained release formulation of a pharmaceutically active carbamate comprising microencapsulating the carbamate with a biodegradable polymer.

21. The method of claim 20, wherein the carbamate is physostigmine, heptylphysostigmine, neostigmine, pyridostigmine, galanthamine, tetrahydroacridine, velnacrine, or a mixture thereof.

22. The method of claim 21 wherein the biodegradable polymer is polyester, poly(d,l-lactide-co-glycolide), poly(phosphate), poly(anhydride), poly(ortho ester), of a mixture thereof.

23. The method of claim 22 wherein the polymer is poly(d,l-lactide-co-glycolide).

24. The method of claim 23 wherein the carbamate is physostigmine.

25. The method of claim 24, wherein the step of microencapsulation is effected by spray drying.

26. The method of claim 25, comprising the step of mixing the carbamate and the polymer in a volatile organic solvent prior to spray drying.

27. The method of claim 26 wherein the solvent is ethyl acetate.

28. The method of claim 27, wherein the spray drying is performed at an inlet temperature of about 50°C to 60°C.